

CLAIMS

I claim:

- 5           1.       A method for adding functionality in order to access information,  
              comprising:  
                  automatically adding first additional code to existing code that creates a first  
                  software entity, said first additional code stores first data relevant to said first software  
                  entity, said first data is available when said first software entity is created; and  
10            automatically adding second additional code to existing code that uses said first  
                  software entity, said second additional code accesses second data relevant to said first  
                  software entity and correlates said second data with said first data.
2.       A method according to claim 1, wherein:  
15            said existing code that creates a first software entity and said existing code that  
                  uses said first software entity are part of a single application.
3.       A method according to claim 1, wherein:  
                  said second data relevant to said first software entity includes information about  
20            use of said first software entity.
4.       A method according to claim 1, wherein:  
                  said first software entity is an object.
- 25           5.       A method according to claim 1, wherein:  
                  said existing code that creates a first software entity and said existing code that  
                  uses said first software entity are object code.

6. A method according to claim 1, wherein:  
said existing code that creates a first software entity and said existing code that  
uses said first software entity are Java object code.

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7. A method according to claim 1, wherein:  
said existing code that creates a first software entity is part of a larger set of code;  
and  
prior to said step of automatically adding first additional code, said first data is  
10 not always made available by said larger set of code.

8. A method according to claim 1, further comprising the steps of:  
executing said first additional code with said existing code that creates said first  
software entity; and  
15 executing said second additional code with said existing code that uses said first  
software entity.

9. A method according to claim 1, further comprising the steps of:  
storing said first additional code with said existing code that creates said first  
20 software entity; and  
storing said second additional code with said existing code that uses said first  
software entity.

10. A method according to claim 1, wherein:  
25 said second additional code traces said first software entity in order to produce  
trace data; and  
said second data includes said trace data.

11. A method according to claim 10, wherein:  
said first software entity is an object;  
said first additional code stores said object with said first data;  
5 said second additional code uses said object to correlate said trace data with said first data.

12. A method according to claim 1, wherein:  
said first software entity is an object that pertains to a connection.

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13. A method according to claim 1, wherein:  
said first data indicates an SQL statement;  
said first software entity is an object that pertains to said SQL statement;  
said existing code that creates said first software entity receives said SQL  
15 statement;  
said first additional code stores said SQL statement and said object;  
said second additional code traces a use of said object and produces resulting trace data, said second additional code stores said trace data with said first data; and  
said existing code that uses said first software entity causes the execution of said  
20 SQL statement.

14. A machine implemented method for adding functionality in order to access information, comprising:  
adding first additional object code to a first portion of existing object code that  
25 creates a first software entity, said first additional object code stores first data relevant to said first software entity, said first data is available to said existing object code when said first software entity is created; and

adding second additional object code to a second portion of said existing object code that uses said first software entity, said second additional object code accesses second data relevant to said first software entity and correlates said second data with said first set of data.

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15. A method according to claim 14, wherein:  
said first software entity is an object; and  
said existing code that creates a first software entity and said existing code that uses said first software entity are object code.

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16. A method according to claim 14, wherein:  
said step of adding second additional code includes adding code that traces said first software entity and produce trace data, said second data includes said trace data; and  
said step of adding second additional code further includes adding code that stores  
15 said trace data with said first data using said first software entity to correlate said trace data with said first data.

17. A method according to claim 14, wherein:  
said first software entity is an object;  
20 said step of adding first additional code includes adding code that stores said object with said first data; and  
said step of adding second additional code includes adding code that uses said object to correlate said second data with said first data.

25 18. A method according to claim 14, wherein:  
said first data indicates an SQL statement;  
said first software entity is an object that pertains to said SQL statement;

said existing code that creates said first software entity receives said SQL statement;

said existing code that uses said first software entity causes the execution of said SQL statement;

5       said step of adding first additional code includes adding code that stores said SQL statement and said object; and

said step of adding second additional code includes adding code that traces a use of said object thereby producing trace data and stores said trace data with said first data.

10       19.    A method for adding functionality in order to access information, comprising:

modifying existing object code to add new functionality; and

executing said modified existing object code, said step of executing includes creating an object, storing first data relevant to said object, tracing said object to produce  
15   trace data and correlating said trace data to said first data;

said steps of creating, storing and correlating are performed by new code added during said step of modifying.

20       20.    A method according to claim 19, wherein:

said object pertains to an SQL statement;

said first data indicates said SQL statement; and

said trace data is correlated to said first data using said object.

25       21.    A method according to claim 20, wherein:

said step of executing includes causing a performance of said SQL statement; and

said trace data indicates a time for performing said SQL statement.

22. One or more processor readable storage devices having processor readable code embodied on said processor readable storage devices, said processor readable code for programming one or more processors to perform a method comprising:

5 automatically adding first additional code to existing code that creates a first software entity, said first additional code stores first data relevant to said first software entity, said first data is available when said first software entity is created; and

automatically adding second additional code to existing code that uses said first software entity, said second additional code accesses second data relevant to said first software entity and correlates said second data with said first data.

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23. One or more processor readable storage devices according to claim 22, wherein:

said first software entity is an object; and

15 said existing code that creates a first software entity and said existing code that uses said first software entity are object code.

24. One or more processor readable storage devices according to claim 22, wherein:

20 said step of adding second additional code includes adding code that traces said first software entity and produce trace data, said second data includes said trace data; and

said step of adding second additional code further includes adding code that stores said trace data with said first data using said first software entity to correlate said trace data with said first data.

25 25. One or more processor readable storage devices according to claim 22, wherein:

said first software entity is an object;

said step of adding first additional code includes adding code that stores said object with said first data; and

said step of adding second additional code includes adding code that uses said object to correlate said second data with said first data.

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26. One or more processor readable storage devices according to claim 22, wherein:

said first data indicates an SQL statement;

said first software entity is an object that pertains to said SQL statement;

10 said existing code that creates said first software entity receives said SQL statement;

said existing code that uses said first software entity causes the execution of said SQL statement;

15 said step of adding first additional code includes adding code that stores said SQL statement and said object; and

said step of adding second additional code includes adding code that traces a use of said object thereby producing trace data and stores said trace data with said first data.

20 27. One or more processor readable storage devices having processor readable code embodied on said processor readable storage devices, said processor readable code for programming one or more processors to perform a method comprising:

modifying existing object code that creates an object in order to store first data relevant to said object, said first data is available when said first object is created; and

25 modifying existing object code that uses said object in order to trace said object to produce trace data and correlate said trace data to said first data.

28. One or more processor readable storage devices according to claim 27,

wherein:

said first data represents an SQL statement;

said object pertains to said SQL statement;

said existing code that creates said first software entity receives said SQL

5 statement;

said existing object code that uses said object causes execution of said SQL  
statement; and

said trace data includes information about how long said SQL statement executes.

10 29. An apparatus for adding functionality in order to access information,  
comprising:

a communication interface;

a storage device; and

one or more processors, said one or more processors in communication with said

15 communication interface and said storage device, said one or more processors perform a  
method comprising:

automatically adding first additional code to existing code that creates a  
first software entity, said first additional code stores first data relevant to said first  
software entity, said first data is available when said first software entity is created, and

20 automatically adding second additional code to existing code that uses said  
first software entity, said second additional code accesses second data relevant to said  
first software entity and correlates said second data with said first data.

30. An apparatus according to claim 29, wherein:

25 said first software entity is an object; and

said existing code that creates a first software entity and said existing code that  
uses said first software entity are object code.



31. An apparatus according to claim 29, wherein:

said step of adding second additional code includes adding code that traces said first software entity and produce trace data, said second data includes said trace data; and

5       said step of adding second additional code further includes adding code that stores said trace data with said first data using said first software entity to correlate said trace data with said first data.

32. An apparatus according to claim 29, wherein:

10       said first software entity is an object;

said step of adding first additional code includes adding code that stores said object with said first data; and

said step of adding second additional code includes adding code that uses said object to correlate said second data with said first data.

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33. An apparatus according to claim 29, wherein:

said first data indicates an SQL statement;

said first software entity is an object that pertains to said SQL statement;

20       said existing code that creates said first software entity receives said SQL statement;

said existing code that uses said first software entity causes the execution of said SQL statement;

said step of adding first additional code includes adding code that stores said SQL statement and said object; and

25       said step of adding second additional code includes adding code that traces a use of said object thereby producing trace data and stores said trace data with said first data.

34. An apparatus for adding functionality in order to access information, comprising:

a communication interface;

a storage device; and

5 one or more processors, said one or more processors perform a method comprising:

modifying existing object code to add new functionality, and

executing said modified existing object code, said step of executing

includes creating an object, storing first data relevant to said object, tracing said object

10 and correlating information relevant to said tracing to said first data, said step of creating, storing and correlating are performed by new code added during said step of modifying.

35. An apparatus according to claim 34, wherein:

said object pertains to an SQL statement;

15 said first data indicates said SQL statement; and

said information relevant to said tracing is correlated to said first data using said object.

36. An apparatus according to claim 34, wherein:

20 said step of executing includes causing a performance of said SQL statement; and  
said information relevant to said tracing indicates a time for performing said SQL statement.